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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,850	09/29/2005	Thomas Durbaum	DE 020187	6192

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EXAMINER

PHAM, EMILY P

ART UNIT	PAPER NUMBER
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2838

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08/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/521,850	DURBAUM ET AL.
	Examiner	Art Unit
	Emily P. Pham	2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 9/29/2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-13 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-13 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 01/21/2005 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 - Certified copies of the priority documents have been received in Application No. _____.
 - Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date <u>9/29/2005</u> .	6) <input type="checkbox"/> Other: _____ .

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 9/29/2005 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a) because FIG 1 and FIG 7 fail to show label for x-axis; FIG 2 and FIG 6 fail to show the labels for boxes. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top

margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. FIG 1, FIG 2, and FIG 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 1 has an ambiguous limitation: the last paragraph of claim 1 beginning with "characterized by ..." does not have the defined antecedent subject, it is obscure what is characterized – said load, signal, rectifier, step of disabling, method as a whole or any components introduced in the previous paragraph:

7. Claim 5 recites the limitations "said capacitor, C1, R1, Lc, Rc" (claim 5, last 3 lines). There is insufficient antecedent basis for these limitations in the claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-4, 7-9, and 12 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Brkovic (U.S. Patent 5,940,287).

10. Regarding independent claim 1:

Brkovic discloses the structure to perform method for controlling the transient response of a power converter powering a load (FIG 1, item 150), said power converter comprising a power switch (FIG 1, item 110), a synchronous rectifier (FIG 1, item 120)

and a capacitor (FIG 1, item 140) coupled between an input and an output of the power converter, said method comprising the step of disabling said synchronous rectifier (column 4, lines 62-67) in response to a signal indicative of a change of said load (column 4, lines 62-67), characterized by providing said signal based on a current representing said change of load (column 4, lines 62-67).

11. Regarding depending claim 2:

Brkovic discloses the structure to perform the method as claimed in claim 1, characterized in that said load (FIG 1, item 150) communicates information about its needed current to provide said signal (FIG 1, items 150, 160, and 1o).

12. Regarding depending claim 3:

Brkovic discloses the structure to perform the method as claimed in claim 1, characterized in that said signal is provided by detecting a current (FIG 1, 1o) through said load (FIG 1, item 150).

13. Regarding depending claim 4:

Brkovic discloses the structure to perform the method as claimed in claim 1, characterized in that said signal is provided by detecting a current (FIG 1, 1o).

14. Regarding independent claim 7:

Brkovic discloses transient response controller (FIG 1, item 160) to be used in a power converter (FIG 1, item 100) powering a load (FIG 1, item 150), said power converter comprising a power switch (FIG 1, item 110), a synchronous rectifier (FIG 1, item 120), and a capacitor (FIG 1, item 140) coupled between an input and an output thereof, said transient response controller being coupled at least to said synchronous rectifier to disable said synchronous rectifier in response to a signal indicative of a change of said load (FIG 1, items 160, 120, and 150), characterized in that said transient response controller is coupled to means for providing said signal based on a current representing the change of load (FIG 1, items 160, and 150).

15. Regarding independent claim 8:

Brkovic discloses a power converter (FIG 1, item 100) powering a load (FIG 1, item 150), comprising a power switch (FIG 1, item 110), a synchronous rectifier (FIG 1, item 120) and a capacitor (FIG 1, item 140) coupled between an input and an output of the power converter, and a transient response controller coupled to at least said synchronous rectifier, said transient response controller disabling said synchronous rectifier in response to a signal indicative of a change of said load, by means for providing said signal based on a current representing said change of load, said means for providing said signal being coupled to said transient response controller (FIG 1).

16. Regarding dependent claim 9:

Brkovic discloses the power converter as claimed in claim 8, characterized in that said means for providing said signal is a controller of said load communicating the power consumption of said load to said transient response controller (column 4, lines 27 – column 5, line 19).

17. Regarding dependent claim 12:

Brkovic discloses the power converter as claimed in any of claims 8 to 11, characterized in that said transient response controller is connected to said power switch to switch off said power switch in response to said signal (column 4, lines 27 – column 5, line 19).

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brkovic (U.S. Patent 5,940,287) as applied to claim 1 above, and further in view of Zhang (U.S. Patent 6,232,755).

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Brkovic does not disclose the method, characterized that said signal based on a current is compared to at least one threshold value.

Zhang teaches the method for controlling transient response, characterized that said signal based on a current is compared to at least one threshold value (column 6, lines 3-6).

Brkovic and Zhang disclose the method for controlling transient response in a switching voltage regulator. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine techniques taught by Brkovic and Zhang for the purpose of increasing the efficiency of a voltage regulator in controlling transient response (Zhang, column 1, lines 6-8; column 2, lines 62-63).

20. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brkovic (U.S. Patent 5,940,287) as applied to claim 8 above, and further in view of Zhang (U.S. Patent 6,232,755).

21. Regarding dependent claim 10:

Brkovic does not disclose the power converter, characterized in that said means for providing said signal comprises means for detecting the current through said load and means for comparing said current with at least one threshold value.

Zhang discloses the power converter, characterized in that said means for providing said signal comprises means for detecting the current through said load and

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means for comparing said current with at least one threshold value (column 6, lines 3-6).

Brkovic and Zhang disclose the method for controlling transient response in a switching voltage regulator. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine techniques taught by Brkovic and Zhang for the purpose of increasing the efficiency of a voltage regulator in controlling transient response (Zhang, column 1, lines 6-8; column 2, lines 62-63).

22. Regarding dependent claim 11:

Brkovic does not disclose the power converter, characterized in that said means for providing said signal comprises means for detecting the current through said capacitor by a voltage drop across said capacitor and means for comparing said voltage drop with at least one threshold value.

Zhang discloses the power converter, characterized in that said means for providing said signal comprises means for detecting the current through said capacitor by a voltage drop across said capacitor and means for comparing said voltage drop with at least one threshold value (column 6, lines 3-6).

Brkovic and Zhang disclose the method for controlling transient response in a switching voltage regulator. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine techniques taught by Brkovic and Zhang for the purpose of increasing the efficiency of a voltage regulator in controlling

transient response (Zhang, column 1, lines 6-8; column 2, lines 62-63).

23. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brkovic (U.S. Patent 5,940,287) as applied to claim 1 above, and further in view of Zhang (U.S. Patent 6,232,755).

Brkovic does not disclose the use of power converter as claimed for powering high speed integrated circuits.

Zhang teaches the use of power converter as claimed for powering high speed integrated circuits (column 2, lines 14-19).

Brkovic and Zhang disclose the method for controlling transient response in a switching voltage regulator. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine techniques taught by Brkovic and Zhang for the purpose of increasing the efficiency of a voltage regulator in controlling transient response (Zhang, column 1, lines 6-8; column 2, lines 62-63).

Allowable Subject Matter

24. No claim is allowed.

Conclusion

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Ishii (U.S. Patent 5,534,769), Boylan (U.S. Patent 5,920,475), Farrington et al. (U.S. Patent 5,991,168), Poon et al. (U.S. Patent 6,188,209), and Oglesbee et al. (U.S. Patent 6,320,363).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily P. Pham whose telephone number is (571) 270-3046. The examiner can normally be reached on 4/10.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl D. Easthom can be reached on (571) 272 - 1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Emily P. Pham
Patent Examiner
AU 2838



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PRIMARY EXAMINER